

Abstract

Autostereoscopic multi-user display

An autostereoscopic multi-user display comprising a sweet-spot unit which is
5 directionally controlled by a tracking and image control device (160), wherein an
illumination matrix (120) is provided with separately activatable illuminating
elements (11 56), in addition to an imaging device used to alternatingly image
active illuminating elements, for making expanded sweet spots (SRI/SR2) visible to
various eye positions (EL1/ERI, EL2/ER2) of viewers observing alternating images
10 or a stereoscopic image sequence on a transmissive image matrix (140) with the
aid of directed beams (B1R ... B5L). According to the invention, the imaging device
comprises an imaging matrix (110) provided with a plurality of lens elements (111
115) whose focal length is small in order to image the active illuminating elements in
an enlarged manner onto the sweet spots (SRI/SR2), and a field lens (171), which
15 follows the imaging matrix (110), in order to keep the distances of the activated
illuminating elements between adjacent beams (B1, B2, B4, B5) as constant as
possible and in order to assist selection of the directions (D1 ... D5) with the
illumination matrix (120) for the beams.